

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions or listings of claims in this application.

Claim 1: (Currently Amended) A water-soluble or water-dispersible polyurethane comprising a reaction product of

- A) a mixture of at least one polyether polyol a1) having an average functionality of ≥ 3 and at least one urethane group-containing polyether polyol a2) having an average functionality of ≥ 4 ,
- B) at least one C₈-C₂₂ monoisocyanate,
- C) at least one (cyclo)aliphatic and/or aromatic diisocyanate,
- D) optionally at least one C₈-C₂₂ monoalcohol, and
- E) optionally at least one polyisocyanate having an average functionality of >2

wherein component C) comprises isophorone diisocyanate and the starting NCO/OH equivalent ratio is between 0.5:1 to 1.2:1 and the polyurethane has a softening point of from 10°C to 80°C and

wherein the polyether alcohol mixture A) containing polyether a1) and the urethane group-containing polyether a2) is carried out by the partial reaction of the polyethers a1) with at least one organic isocyanate having a functionality of ≥ 2 and up to about 10 mole % to 50 mole % of the polyethers a1) are reacted with isocyanates.

Claim 2: (Previously Presented) The polyurethane of Claim 1, wherein the polyether polyol a 1) has an average functionality of 3.

Claim 3: (Previously Presented) The polyurethane of Claim 1, wherein the polyether polyol a1) has an average functionality of 4 to 6.

Claim 4: (Previously Presented) The polyurethane of Claim 1, wherein component B) comprises a C₁₀-C₁₈ monoisocyanate.

Claim 5: (Previously Presented) The polyurethane of Claim 1, wherein component B) comprises a C₁₂-C₁₈ monoisocyanate.

Claim 6: (Previously Presented) The polyurethane of Claim 1, wherein component C) comprises a (cyclo)aliphatic diisocyanate.

Claim 7: (Previously Presented) The polyurethane of Claim 1, wherein component D) comprises a C₁₀-C₁₈ monoalcohol.

Claim 8: (Currently Amended) A process for the production of a water-soluble or water-dispersible polyurethane comprising reacting

- A) a mixture of at least one polyether polyol a1) having an average functionality of ≥ 3 and at least one urethane group-containing polyether polyol a2) having an average functionality of ≥ 4 ,
 - B) at least one C₈-C₂₂ monoisocyanate,
 - C) at least one (cyclo)aliphatic and/or aromatic diisocyanate,
 - D) optionally at least one C₈-C₂₂ monoalcohol, and
 - E) optionally at least one polyisocyanate having a mean functionality of > 2
- wherein component C) comprises isophorone diisocyanate and the starting NCO/OH equivalent ratio is between 0.5:1 to 1.2:1 and the polyurethane has a softening point of from 10°C to 80°C; and

wherein the polyether alcohol mixture A) containing polyether a1) and the urethane group-containing polyether a2) is carried out by the partial reaction of the polyethers a1) with at least one organic isocyanate having a functionality of ≥ 2 and about 10 mole % to 50 mole % of the polyethers a1) are reacted with isocyanates.

Claim 9: (Previously Presented) The process of Claim 8, wherein the urethane group-containing polyether polyol a2) is produced by a partial reaction of the polyether polyol a1) with a diisocyanate.

Claim 10: (Previously Presented) The process of Claim 8, wherein the urethane group-containing polyether polyol a2) is produced by a partial reaction of the polyether polyol a 1) with polyisocyanates having an average functionality of 2.

Claim 11: (Previously Presented) A composition of matter comprising the polyurethane of Claim 1.

Claim 12: (Previously Presented) The composition of Claim 11, wherein the composition is a thickened aqueous paint system, an adhesive or another aqueous formulation.